

Workers lend osprey helping hands, crane

by George Diller

U.S. Fish and Wildlife Service personnel took their job to new heights last week as they coordinated the relocation of an osprey nest that was threatened by the refurbishment of the 150-foot antenna calibration tower it was perched on.

The nest, which contained two hatchlings, was moved to a wooden pole with a platform atop. The structure was built according to Wildlife Service specifications and erected by a team of EG&G personnel about 300 feet from the tower. Because the osprey is a protected species, a state permit was obtained to move the hatchlings and the nest.

Wildlife Service personnel approached the nest using a bucket crane and placed the two hatchlings in a box. Then the top section of the calibration tower which was supporting the nest was carefully removed and lowered to the ground. Wildlife Service workers then moved the nest, placing it atop the pole. The parent birds returned to the nest in about 40 minutes and resumed nurturing the hatchlings.



WAYNE LINDSEY, a U.S. Fish and Wildlife Service employee, places an osprey hatchling in its relocated nest. David Swartz of Allied Signal assists.

Work to refurbish the tower began the same day, as soon as the birds were relocated.

The tower is being completely reconstructed by a team from Allied Signal Technical Services Corporation, the MILA tracking station contractor. The tower holds antennas which are used to calibrate the 9-meter S-Band tracking antennas at MILA, and also a microwave antenna which relays a signal between MILA and the Ponce De Leon Inlet tracking station in New Smyrna Beach with voice, data and telemetry for the Space Shuttle. The work will be finished in time to support the STS-77 launch in mid-May.

Community leaders



CENTER DIRECTOR Jay Honeycutt, right, and Kent Black, chief executive officer of United Space Alliance, find a moment to talk during the annual community leaders breakfast held April 19 at the Kennedy Space Center Visitor Center. More than 400 community leaders from Brevard County and the state of Florida attended the breakfast and heard briefings from Honeycutt and Black on 1995 space center milestones, the short and long-term future projections of the space program and the impact those plans might have on the local community. Following the briefings, attendees were invited to participate in a bus tour of KSC.

Space Shuttle insulation cools NASCAR driver in Daytona test

By Chuck Weirauch

Space Shuttle insulation reduced temperatures in the cockpit of NASCAR driver Rusty Wallace's Ford Thunderbird by 30 to 50 degrees during a high-speed test at Daytona International Speedway recently.

A KSC Thermal Protection System (TPS) team had designed and installed thermal barriers in Wallace's car made of scrap TPS blanket material late last year at the space center. However, this was the first fully instrumented test to determine how well the heat reduction system would work under race track conditions.

"The data we have collected from thermocouples inside and outside the car indicate that the material really did its job," said NASA TPS Facility manager Bruce Lockley. "I also could really feel how much hotter it was inside the car when we ran it without the blankets."

Although blankets were initially installed both inside and outside the vehicle, during the test, Wallace ran 20 2.5-mile



CENTER DIRECTOR Jay Honeycutt, right, shakes hands with NASCAR driver Rusty Wallace. Wallace's Ford Thunderbird was equipped with scrap thermal barriers for a heat reduction test.

laps with only the external elements of the TPS system in place. He then drove the same distance with the thermal barriers removed. Computer-based sensors and data recorders were onboard to measure temperatures at hot spots around the car throughout the experiment.

"One critical point is just below the driver's foot, which rests on the floorpan above the car's exhaust system," said Martin Wilson, project manager at the TPS Facility for Rockwell International. "We measured a tem-

perature of 108 degrees Fahrenheit at this point with the TPS material in place and 145 degrees with the blanket material removed. The temperature reduction will be even greater when we run tests with the interior insulation in place."

Another hot spot is near the driver's left elbow, Wilson said. With just the external insulation in place, the recorded temperature was 120 degrees. A blistering 260 degrees was reported without the insulation.

Experts have estimated that

temperatures inside the driver's cockpit during a race can reach up to 160 degrees. Although drivers are cooled with forced air systems and protected by fire-retardant suits, they have been burned and blistered by the heat transferred through the engine firewall, transmission tunnel and floor into the cockpit.

In an attempt to improve conditions for his drivers, former NASCAR champion and NASCAR race team manager Bobby Allison approached Kennedy Space Center Director Jay Honeycutt to help find a solution. Roger Penske then agreed to have one of his cars serve as a testbed for new technology that could be adopted by NASCAR. The effort led to a NASA Space Act agreement between the space center and Penske Racing Inc. The Penske team agreed to test a TPS-equipped car under racing conditions. The KSC team will continue to work with Penske to conduct additional tests and to develop a thermal system that can be switched quickly from one car to another, Lockley said.